

CLAIMS

We claim:

1. A method of processing a digital image corresponding to a scanned document having corresponding image data comprising a plurality of pixel values and having
5 an associated background, the method comprising:

analyzing image data to obtain statistical data;

deriving a background noise removal tonemap function for the entire image based on the statistical data;

storing the image data and tonemap function;

- 10 providing user selection to:

in a first case, remove background noise from the image wherein pixel values are converted using the tonemap function prior to rendering the image; and

- 15 in a second case, to bypass background noise removal prior to rendering.

2. The method as described in Claim 1 further comprising pre-processing image data while analyzing image data and using intermediate results obtained from pre-processing the image data to obtain statistical data.

3. The method as described in Claim 1 further comprising storing the tonemap
20 function by generating a corresponding look-up table and storing the look-up table with the image data.

4. The method as described in Claim 1 further comprising storing the image data and the tonemap function according to a selected document format.

5. The method as described in Claim 1 wherein analyzing the image data further
25 comprises estimating a global background tone value.

6. The method as described in Claim 5 wherein the tonemap function is derived from the global background tone value.

7. The method as described in Claim 1 further comprising providing a user interface allowing viewing of a rendering of image data dependent on the user selection.
8. The method as described in Claim 1 further comprising providing a user interface including an option allowing the selection of background noise removal on a page-by-page basis.
9. A method of processing a digital image corresponding to a scanned document having corresponding image data comprising a plurality of pixel values and having an associated background, the method comprising:
 - analyzing image data to obtain statistical data;
 - storing the image data and the statistical data;
 - providing user selection to:
 - in a first case, remove background noise from the image wherein pixel values are converted by deriving a background noise removal tonemap function from the stored statistical data; and
 - in a second case, to bypass background noise removal prior to rendering.
10. The method as described in Claim 9 wherein the statistical data is a global background tone value derived from the image data.
11. The method as described in Claim 9 wherein the statistical data is at least one histogram derived from the image data.
12. The method as described in Claim 9 further comprising pre-processing image data while analyzing image data and using intermediate results obtained from pre-processing the image data to obtain statistical data.
13. The method as described in Claim 9 further comprising providing a user interface allowing viewing of a rendering of image data dependent on the user selection.

